

RANCANG BANGUN ROBOT PENYIRAM TANAMAN BERBASIS INTERNET OF THINGS (IOT)

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ABSTRACT

The technology development is increasingly developing, so technology must facilitate human work, especially for watering plants. Plants are living things that have many benefits for living things around them. So that plants' survival must also be considered because humans will not be able to live without plants. Especially in cities where the water supply is running low, plants will find it difficult to live if the water supply is not regularly carried out. In this Final Project research, a design and construction of an automatic plant watering robot based on internet of things (IoT) with a robot system can water plants automatically in a controlled way from an android application that is connected. The command from the android application will instruct the robot to go forward, backward, turn left, turn right, stop and spray water through data from the application will be captured by one NodeMCU 8266. Then it will be processed to be forwarded to motor drivers and relays according to the commands input by the application. After that, the motor driver will continue to the DC motor as a driving force for robot maneuvers, and the relay will be sent to the water pump as a tool for sprinkling water to the plants. From the results of the tests carried out, it is known that the use of a connection system using a wifi network has various problems, so it is replaced with a Bluetooth connection, and the results are better in terms of performance and robot control, for the presentation. From the whole system's test results, it can be seen that the level of performance is 75.5%, precision is 75.5%, repeat orders are 100%, and accuracy is 87.7%.

Keywords: *Robot, Internet of things (IoT), Plant Watering Can, Microcontroller.*